



RESEARCH NOTE.....

Excretory pattern and characteristics of excreta of blue rock pigeon (*Columba livia*)

SIMRANJIT KAUR AND K.S. KHERA

Author for Corresponding -

SIMRANJIT KAUR

Department of Zoology, Punjab
Agricultural University,
LUDHIANA (PUNJAB) INDIA
Email: simrankaur8734@yahoo.in

See end of the article for

Coopted authors'

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Excreta or dropping is a waste product from an animal's digestive tract expelled through the cloaca which provides information about recent meals, activities or events. Droppings age quickly. As they age, they integrate, giving rise to difficulties in the investigation of droppings. Studies regarding the chemical composition and characterization of excreta are important, as diseased condition may lead to changes in biological processes in an organism. These changes are reflected in the quantity and composition of excreta. In the present study, excreta of common bird species of agro ecosystems were collected and analysed pellet by pellet for their physical appearance, texture, colour, shape and weight (DeCant and Barrett, 2010)

The bird for our investigation was feral pigeon (*Columba livia*). Pigeons have thrived in our cities by adapting to life, learning to roost and breed in the seemingly inhospitable environment provided by tall buildings, and to survive on the available food. Pigeons (*Columba livia*) are amongst the most conspicuous urban birds, ubiquitously present in many cities worldwide (Goodwin, 1983). Pigeons are sometimes called "the

flying rat" adapted to living and causing a nuisance in the cities over recent years there has been a marked increase in the numbers of feral (wild) pigeons. This bird is about 33cm in length and weighs between 280 and 560g with an average about 350g. Its plumage can vary considerably from a close resemblance to that of the original rock-dove (with blue grey plumage double black wing bars and a white rump through various "blues", "reds" and chequered types, to almost pure black. The pigeon is capable of breeding throughout the year and nests may be found in any month. However, the peak occurs between March and July. Usually, two white eggs are laid on consecutive days. Incubation lasts about 18 days with fledging taking place about 4 weeks later. A new clutch can be laid when the first young are 20 days old, therefore, upto nine broods may be produced per year by just one female pigeon (Dauwe *et al.*, 2005).

The fecal matter and feathers of pigeon were collected from the roosting, foraging and nesting sites from three different locations of Punjab and the locations are Agronomy farm of Punjab Agricultural University, Jalandhar bypass and Mullanpur in Ludhiana and from

Jalandhar FCI godown (Jalandhar) and Hoshiarpur FCI godown (Hoshiarpur) (Table 1). Here, these birds formed their nests. The collection of fecal matter and feathers of blue rock pigeon was quite easy because their nests (Fig. 1) were easily located and moreover, these birds feed in large flocks in the agrifields. The collection of

blue rock pigeon fecal matter and feathers was done from January to December (2013 and 2014). The physical characteristics of fecal matter like colour, texture, visible ingredient, shape and weight of dry pellets were noticed (Table 2 and 3).

The fecal matter of blue rock pigeon was semisolid

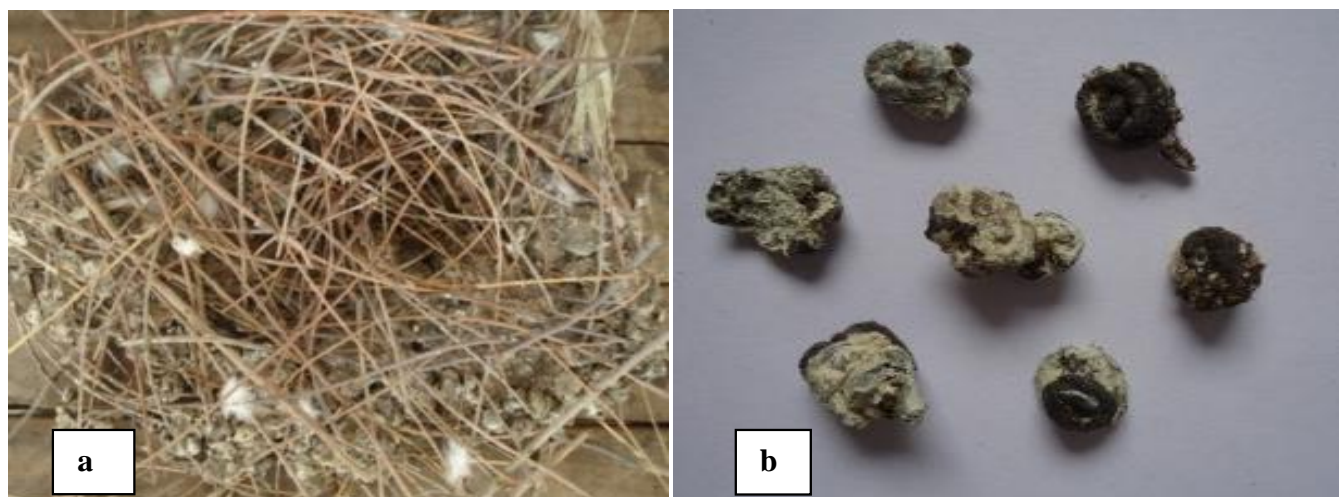


Fig. 1: (a) Nest of pigeon (b) Fecal matter of pigeon

Table 1: Sites and months of collection of fecal matter

Sr. No.	Site of collection	Month of collection	
		<i>Kharif</i>	<i>Rabi</i>
1.	Ludhiana	July	October
	Agronomy farm, PAU	August	November
	Jalandhar bypass	September	December
	Mullanpur	October	January
2.	Jalandhar, FCI godown		February
3.	Hoshiarpur, FCI godown		March

Table 2: Physical analysis of pigeon fecal matter

S. No.	Physical characteristics	Location		
		Ludhiana	Jalandhar	Hoshiarpur
1.	Colour	Green when wet and turns white on upper side and dark green to black on lower side		
2.	Texture	Semisolid	Semisolid	Semisolid
3.	Visible ingredient	Wheat and pulse grains	Wheat grains	Rice grains, pulses
4.	Shape	Spiral	Spiral	Spiral

Table 3: Weight of dry pellets (in g)

Sr. No.	Location	Replications					Mean value
		R ₁	R ₂	R ₃	R ₄	R ₅	
1.	Ludhiana	0.160	0.157	0.158	0.159	0.161	0.159
2.	Jalandhar	0.159	0.161	0.155	0.149	0.147	0.154
3.	Hoshiarpur	0.161	0.147	0.148	0.149	0.151	0.151

R= Replications

in texture, green in colour when wet and turns white on upper side and dark green to black on lower side when dry at all three locations *i.e.* Ludhiana, Jalandhar and Hoshiarpur. The ingredient was different in fecal matter of pigeon of three locations. Fecal matter of pigeons in Ludhiana location contained wheat and pulse ingredient as majority due to availability of these food grains in season and the fecal matter of pigeons at Jalandhar location contain wheat grains as an ingredient and the fecal matter of pigeon from Hoshiarpur location contain rice grains and pulse grains. The shape was spiral. There was significant

difference in weight of dry pellets of pigeon at three different locations of Punjab. It significant.

The results from our study revealed that the excreta of pigeon can be collected from the roosting, foraging and nesting sites. Though, the excreta of pigeon are similar in shape, texture and colour but it differ in weight at different locations of Punjab which can be due to different food availability.

COOPTED AUTHORS' –

K.S. KHERA, Department of Zoology, Punjab Agricultural University, LUDHIANA (PUNJAB) INDIA

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